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AF/ITW



PATENT
Customer No. 22,852
Attorney Docket No. 9136.0005-00

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of:)
)
VANNIASINKAM, Joseph et al.) Group Art Unit: 2883
)
Application No.: 10/764,979) Examiner: BLEVINS, Jerry M.
)
Filed: January 26, 2004)
)
For: OPTICAL ROSA FOR LONG) Confirmation No.: 6605
REACH OPTICAL TRANSCEIVER)

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PRE-APPEAL BRIEF REASONS FOR REQUEST FOR REVIEW

Sir:

Applicants request a pre-appeal brief review of the Final Office Action dated March 26, 2007 ("Final Office Action"). This Request is being filed concurrently with a Notice of Appeal and a Pre-Appeal Brief Request for Review.

I. REQUIREMENTS FOR SUBMITTING A PRE-APPEAL BRIEF REQUEST FOR REVIEW

Applicants have met each of the requirements for a pre-appeal brief review of rejections set forth in an Office Action. The application has been at least twice rejected. Applicants have filed a Notice of Appeal with this Request, and have not yet filed an Appeal Brief. Lastly, Applicants submit a Pre-Appeal Brief Request for Review that is five (5) or less pages in length and sets forth legal or factual deficiencies in the rejections. See Official Gazette Notice, July 12, 2005. Therefore, Applicants request review of the

Examiner's rejections in the Final Office Action for the following reasons. Applicants reserve the right to raise additional arguments on appeal, including arguments that could have been raised here.

II. EXAMINER'S REJECTIONS OF CLAIMS 1-3 and 18 ARE CLEARLY ERRONEOUS

In the Final Office Action dated March 26, 2007 ("OA"), the Examiner rejected claim 1-3 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,631,991 ("Cohen") in view of U.S. Patent No. 5,031,984 ("Eide") and 6,851,870 ("Deng"). The Examiner also rejected claim 18 under 35 U.S.C. § 103(a) as being unpatentable over Cohen in view of Deng. Applicants respectfully traverse the rejections and request the Examiner to withdraw the rejection based on the arguments provided below.

MPEP § 2141.02 recites "[i]n determining the differences between the prior art and the claims, the question under 35 U.S.C. [§] 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious." MPEP § 2142.02 (emphasis added). According to the MPEP, the Examiner must review claim 1 as a whole when determining whether Cohen in view of Eide and Deng discloses the entire claim. But the Examiner failed to consider claim 1 as a whole when applying this combination of references.

Claim 1 recites "a lens system oriented with respect to the multi-mode optical fiber stub to focus an optical beam exiting the multi-mode optical fiber stub onto an active area of an optical detector...wherein the optical detector is offset from the optical axis of the multi-mode optical fiber" (emphasis added). In other words, claim 1 requires that the optical detector, which is offset from the optical axis of multi-mode optical fiber, must receive an optical beam from multi-mode optical fiber stub.

As acknowledged by the Examiner, Cohen in view of Eide fails to disclose an optical detector being offset from the optical axis of the multi-mode optical fiber. Accordingly, Cohen in view of Eide fails to disclose the optical detector, which is offset from the optical axis of the multi-mode optical fiber, receiving an optical beam from multi-mode fiber stub. To overcome this deficiency, the Examiner used Deng to supplement Cohen and Eide. The Examiner alleged that Deng discloses that the

components are offset by stating “an optical detector chip (30, column 7, lines 22-24) offset (Figure 1) from the optical axis of a fiber (20).” OA at page 5.

But, like Cohen and Eide, Deng fails to disclose the optical detector, which is offset from the optical axis of the multi-mode optical fiber, receiving an optical beam from multi-mode fiber stub.

First, Deng fails to disclose that functional element 30 even receives a light spot from optical fiber.

Applicants respectfully submit that Deng’s functional element 30 is used to assist in aligning—not receiving a light spot from fiber—the image sensor 31 with the optical fiber 20. If Deng’s functional element 30 is aligned properly so that a light beam provided by functional element 30 goes through the lens to the fiber coupling plane 21, the image sensor 31 could only be properly aligned with optical fiber 20 to receive the communication. While Deng acknowledges that functional element 30 could be a light detector (Deng at 7:22-24), Deng fails to provide support that functional element 30—not image sensor 31—receives light from fiber stub.

Second, even if functional element 30 is somehow considered an optical detector, Deng requires alignment in order for image sensor 31/functional element 30 to receive a light signal from stub by stating:

The present invention relates to a method for measuring and assembling transceiver optical sub-assembly (OSA), in which an image sensor is aligned with a fiber aperture on a housing of the optical sub-assembly and set to focus on a fiber coupling plane in the housing, so as to detect a light spot presented on the fiber coupling plane by a laser beam emitted from a functional element through the lens, or an image of a light-emitting area or a receiving area of the functional element presented on the fiber coupling plane via the lens. By adjusting the size and position of the light spot or the image on the fiber coupling plane, the functional element is precisely aligned and then fixed in the housing.

With the method, measuring procedures for the OSA are simplified and the transmission

bandwidth for the optical fiber is optimized, enabling an increased rate of good yield of the finished OSA. (emphasis added)

Deng at col. 1 ll. 7-23 (emphasis added).

More specifically, Deng discloses that the image sensor 31/functional element 30 must be aligned with the fiber aperture A3 that holds an optical fiber 20 in place so the image sensor 31/functional element 30 can detect a light spot presented on the fiber coupling plane by a laser beam emitted from an optical fiber. Thus, if Deng's image sensor 31/functional element 30 is offset from optical fiber 20, as alleged by the Examiner, then Deng's optical fiber could not focus an optical beam onto the active area of image sensor 31/functional element 30, as required by claim 1 of the present application.

Therefore, Cohen in view of Eide and Deng fails to disclose "a lens system oriented with respect to the multi-mode optical fiber stub to focus an optical beam exiting the multi-mode optical fiber stub onto an active area of an optical detector...wherein the optical detector is offset from the optical axis of the multi-mode optical fiber," (emphasis added). Therefore, Applicants respectfully request that the Examiner withdraw the rejection to claim 1.

Claims 2 and 3 depend on claim 1 and are allowable for the same reasons as claim 1.

The Examiner appears to rely on similar arguments when rejecting claim 18. For at least the reasons provided above, Applicants respectfully submit that claim 18 is patentable over the cited prior art.

III. EXAMINER'S REJECTION OF CLAIMS 10-13 IS CLEARLY ERRONEOUS

The Examiner rejected claims 10-13 under 35 U.S.C. § 103(a) as being unpatentable over Eide in view of U.S. Publication No. 2005/0002614 ("Zhong"). Applicants respectfully traverse the rejection and request the Examiner to withdraw this rejection.

Claim 10 recites “coupling a light beam from a single-mode optical fiber into a multi-mode fiber stub via a sleeve, wherein the sleeve aligns the single-mode optical fiber and the-multi-mode fiber stub,” (emphasis added).

Eide discloses connecting a single-mode optical fiber with a multi-mode fiber stub using a mold having precision grooves that hold the fibers and adhesive 20 that sandwich the optical fibers in place. Eide at 4:11-22. Eide explicitly acknowledges the advantages of this adhesive by stating “[t]he ultraviolet-curable adhesive also has index matching characteristics [that] are advantageous when coupling optical fibers.” Eide at 3:58-63. Further, the mold and adhesive allows for Eide to connect a link fiber 12 to two branch fibers 14 and 16. Eide at Fig 6 and 3:56-58. The Examiner acknowledged that Eide does not teach a sleeve wherein the sleeve aligns the single-mode optical fiber and the multi-mode fiber stub. OA at page 9. The Examiner then alleged that Zhong provides a sleeve that couples light from a single-mode fiber to a multi-mode fiber. OA at page 8. The Examiner further asserted:

It would have been obvious to one of ordinary skill in the art at the time the invention of the invention to position the sleeve of [Eide] so as to optically couple the multimode fiber stub with a single-mode optical fiber, as taught by Zhong. The motivation would have been to more effectively and easily couple light from a light source through the small core single-mode fiber to a detector via the large core multimode fiber (emphasis added).

OA at page 9.

The Examiner must consider why one of ordinary skill in the art would combine Zhong’s sleeve into Eide’s mold and adhesive “so as to optically couple the multimode fiber stub with a single-mode optical fiber” when Eide’s grooves of the mold and adhesive already provide this coupling feature. Further, Eide acknowledges the advantage of using this adhesive, which raises a serious question why one of ordinary skill in the art would connect the fibers using any other connecting means. In addition, Zhong does not provide a sleeve accommodating the link fiber to two branch fibers, as provided by Eide,

because Zhong appears to only disclose a sleeve connecting a single fiber to a single fiber—not to both branch fibers needed to satisfy Eide. For at least these reasons, Applicants respectfully submit that one of ordinary skill in the art would not combine Eide in view of Zhong. Therefore, Applicants respectfully submit that claim 10 is allowable over the cited prior art.

Claim 11 depends on claim 10 and is allowable for at least the same reasons as claim 10.

Claim 12 recites “...a sleeve for coupling an optical fiber and a multi-mode fiber stub; wherein the sleeve aligns the optical fiber and the multi-mode fiber stub...,” which is similar in scope to claim 10. Due to these similarities, Applicants respectfully submit that claim 12 is allowable over the cited prior art.

IV. EXAMINER’S REJECTION OF CLAIM 17 IS CLEARLY ERRONEOUS

The Examiner rejected claims 17 under 35 U.S.C. § 103(a) as being unpatentable over Cohen in view of Deng and Zhong. Applicants respectfully traverse the rejection and request reconsideration based on the following remarks.

Claim 17 recites “wherein the multi-mode optical fiber stub is mounted in a stub holder, the stub holder being positioned in a receptacle.” The Examiner alleged that Cohen provides housing 2, which acts as a stub holder, but that Cohen fails to disclose a receptacle. The Examiner then asserted that Deng overcomes Cohen’s deficiency because Deng’s aperture A3 acts as a receptacle. To combine these references, the Examiner stated “[i]t would have been obvious to one of ordinary skill in the art at the time of the invention to position the stub holder of Cohen in a receptacle as taught by Deng.” OA at page 10.

But the Applicants respectfully submit that Cohen’s housing 2 is the same type of device as Deng’s housing A2. Each of these housings provides an aperture (Deng’s A3 and Cohen’s ferrule bore), both of which receiving a ferrule. The Examiner must consider why one of ordinary skill in the art would place Cohen’s housing 2 into Deng’s aperture A3 when Deng’s housing A2 and Cohen’s housing 2 are the same type of device. For at least this reason, Applicants respectfully request the Examiner to

withdraw the rejection because one of ordinary skill in the art would not fit Cohen's housing 2 into Deng's aperture A3.

V. CONCLUSION

For at least the foregoing reasons, Applicants respectfully request the Examiner to withdraw the Finality of the Office Action because the present claims are patentable over the cited prior art.

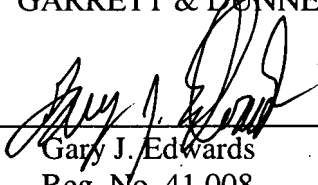
Please grant any extensions of time required to enter this response and charge any additional required fees to our Deposit Account No. 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

Dated: June 26, 2007

By: _____


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